Appl. No. 09/855,851

Doc. Ref.: AK4





(1) Publication number: 0 512 748 A3

12

EUROPEAN PATENT APPLICATION

(21) Application number: 92303892.1

22 Date of filing: 30.04.92

(5) Int. CI.5: **H04N 9/64**, H04N 9/66,

H04N 5/60

30 Priority: 03.05.91 GB 9109617

43 Date of publication of application : 11.11.92 Bulletin 92/46

Ø4 Designated Contracting States : AT DE ES FR GB IT NL SE

(8) Date of deferred publication of search report: 14.07.93 Bulletin 93/28

(7) Applicant: TEXAS INSTRUMENTS LIMITED Manton Lane Bedford MK41 7PA (GB) (72) Inventor: Ritchie, James Kenneth Alexander 31 Lovell Road

Bedford, MK42 0LR (GB) Inventor: Abbott, David 156 Tyne Crescent Bedford,MK41 7YB (GB)

Inventor : Anderson, Adrian Trellech Grange

Chepstow, Gwent NG6 6QW (GB)

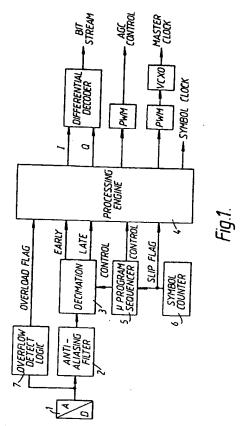
Inventor : Parris, Clifford 3 Park Glade

Tintern, Gwent NP6 6TX (GB)

(74) Representative: Abbott, David John et al Abel & Imray Northumberland House 303-306 High Holbom London, WC1V 7LH (GB)

(54) Method and apparatus for signal processing.

57 A digital demodulator for a NICAM 728 system signal has sampling and digitizing means converting the signal into a succession of digital samples. The digital samples pass through an anti-aliasing digital comb filter to a selector (decimator) that selects one sample in three and feeds it to a second digital filter. Digital matched filters for the in-phase (I) and quadrature (Q) components of the signal effect the demodulation. Carrier and symbols I tracking is carried out digitally. A pulse-width modulated automatic gain control signal is produced for controlling the amplitude of the signal applied to the sampling and digitizing means.



Jouve, 18, rue Saint-Denis, 75001 PARIS



EUROPEAN SEARCH REPORT

Application Number

EP 92 30 3892 Page 1

	DOCUMENTS CONST	DEDEN TO DE DELEVA	NT		
Category		DERED TO BE RELEVA	Relevant	CLASSIFICATION OF THE	
	of relevant pa	ssages	to claim	APPLICATION (Int. Cl.5)	
X		TSCHE ITT INDUSTRIES	1,2,5,	H04N9/64	
	GMBH)	8-10,13, 18,19,	H04N9/66 H04N5/60		
	18 May 1989	18 May 1989			
			22,25-29		
Y			11	II	
A	* the whole documen	t *	12,14		
Y	München, DE, XP0001 T. HILPERT et al.:		, 11		
	Multistandard-Audio				
A	* the whole documen		1,12,14		
L	ELEKTOR ELECTRONICS	 . May. 1992.	_		
_	XP000290987, pages	Ì			
	R. KRIJGSMAN: 'NICA	1 .			
	* the whole documen				
		-1			
A	& MICDONAS MASTATOS	[cited as reference to Micronas chip set] & MICRONAS MAS7A101 data sheet: 'NICAM			
^	QPSK demodulator',	1-14, 18-29			
			10-53		
	Epsoo, FI, pages 1-	10	İ	TECHNICAL FIELDS SEARCHED (Int. Cl.5)	
	* complete paper *			JEARCHED (IIII. C)	
A		data sheet: 'NICAM	1-14,		
	decoder', 10 Septem	18-29	HO4N		
	Epsoo, FI, pages 1-	Į.	H04B		
	* complete paper *		HO4H		
A	& MICRONAS MAS7A103	1-14,	H04L		
	bit D/A converter f	18-29			
	1990, Epsoo, FI, pa				
	* complete paper *				
	somprove paper				
A	BBC RESEARCH DEPART	1-10,			
	1990, Tadworth, GB,	18-29			
	pages A,B,C,1-27;		İ		
	A.J. BOWER: 'NICAM				
	two-channel sound f				
	television'				
	* the whole documen	I			
	the whole documen				
			_		
	The present search report has t	een drawn up for all claims			
Place of search Date of completion of the search				Examiner	
	THE HAGUE	11 MAY 1993		HOEKSTRA A.	
	CATEGORY OF CITED DOCUME	NTS T: theory or m	rinciple underlying the	e invention	
		E : earlier pate	nt document, but pub		
X:pa Y:pa	rticularly relevant if taken alone rticularly relevant if combined with an	after the fil	after the filing date D: document cited in the application		
è o	cument of the same category	L : document c	ited for other reasons		
	A : technological background O : non-written disclosure			ly, corresponding	
	P: intermediate document		member of the same patent family, corresponding document		
				-	

PPO PORM 1503



EUROPEAN SEARCH REPORT

Application Number

EP 92 30 3892 Page 2

Category	Citation of document with ind of relevant pass		Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	ELECTRONIC COMPONENT	S and , no.3, Eindhoven, NL, 21–127; 8 two-channel	1,18	
		•		TECHNICAL FIELDS SEARCHED (lat. Cl.5)
	The present search report has b	een drawn up for all claims Date of completion of the search		Examiner
	THE HAGUE	11 MAY 1993		HOEKSTRA A.
THE HAGUE CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document		NTS T: theory or princi E: earlier patent di after the filing ther D: document cited L: document cited	T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding	